

Total No. of Questions :6]

SEAT No. :

P148

APR. -16/BE/Insem. - 68

[Total No. of Pages :2

B.E. (Information Technology)

ADVANCED DATABASES

(2012 Course) (414462) (Semester - II)

Time : 1Hour]

[Max. Marks :30

Instructions to the candidates:

- 1) Answer Q1 or Q2, Q3 or Q4, Q5 or Q6.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right indicate full marks.
- 4) Assume suitable data, if necessary.

Q1) a) Explain Inter Query and Intra Query parallelism in parallel databases. [6]

b) Explain data fragmentation in distributed database design. [4]

OR

Q2) a) What is purpose of two phase commit protocol? Explain with example. [6]

b) Explain various system parameters of parallel databases. [4]

Q3) a) The following well formed XML document, *bib.xml* captures the information about bibliography [6]

<bib>

<book year = "1994">

<title> TCP/IP Illustrated</title>

<author><last>Stevens</last><first>W.</first></author>

<publisher>Addison-Wesley</publisher>

<price>65.95</price>

</book>

<book year = "1992">

<title>Advanced Programming in the Unix environment</title>

<author><last>Stevens</last><first>W.</first></author>

<publisher>Addison-Wesley</publisher>

<price>65.95</price>

</book>

P.T.O.

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<book year = "2000">
<title> Data on the Web</title>
<author><last> Abiteboul</last><first>Serge</first></author>
<publisher>Morgan Kaufmann Publishers</publisher>
<price>39.95</price>
</book>
</bib>

```

Write any three following queries in XQuery

- i) List of all the title and its price pairs with each pair enclosed in a result element.
 - ii) List the number of book present in bibliography.
 - iii) Find books whose price is larger than the average price.
 - iv) List the titles and years of all books published by Addison-Wesley after 1991 in ascending order.
- b) What is an Object Identity? What are the properties of object identity?[4]

OR

- Q4)** a) Explain difference between XML schema and XML DTD. [5]
- b) What is the difference between persistent and transient objects? How is persistence handled in typical object oriented database systems? [5]

- Q5)** a) What is Big Data? Explain major challenges with Big Data. [5]
- b) What are the advantages and disadvantages of NoSQL database? [5]

OR

- Q6)** a) Explain the following terms
Column-based and Key-based NoSQL databases. [5]
- b) Explain various operations performed by DynamoDB in detail. [5]

